Machine Learning for Cyberattack Detection

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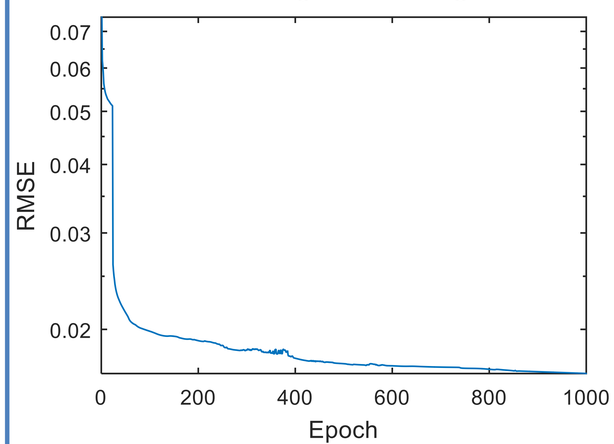
Rationale

- Machine learning has become substantially utilized in cybersecurity applications
- Machine learning is advancing at a rapid rate, and the application of new learning techniques to cybersecurity needs to be investigated

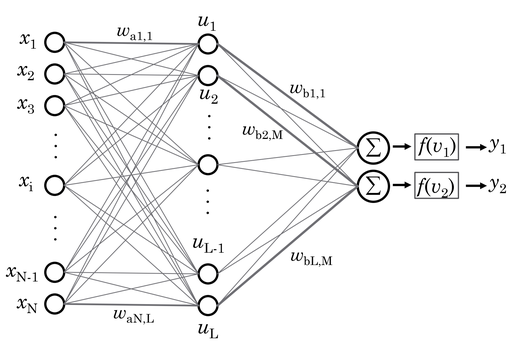
Methodology

- A Multilayer Perceptron algorithm was trained to classify the difference between benign network data and malicious cyber attacks

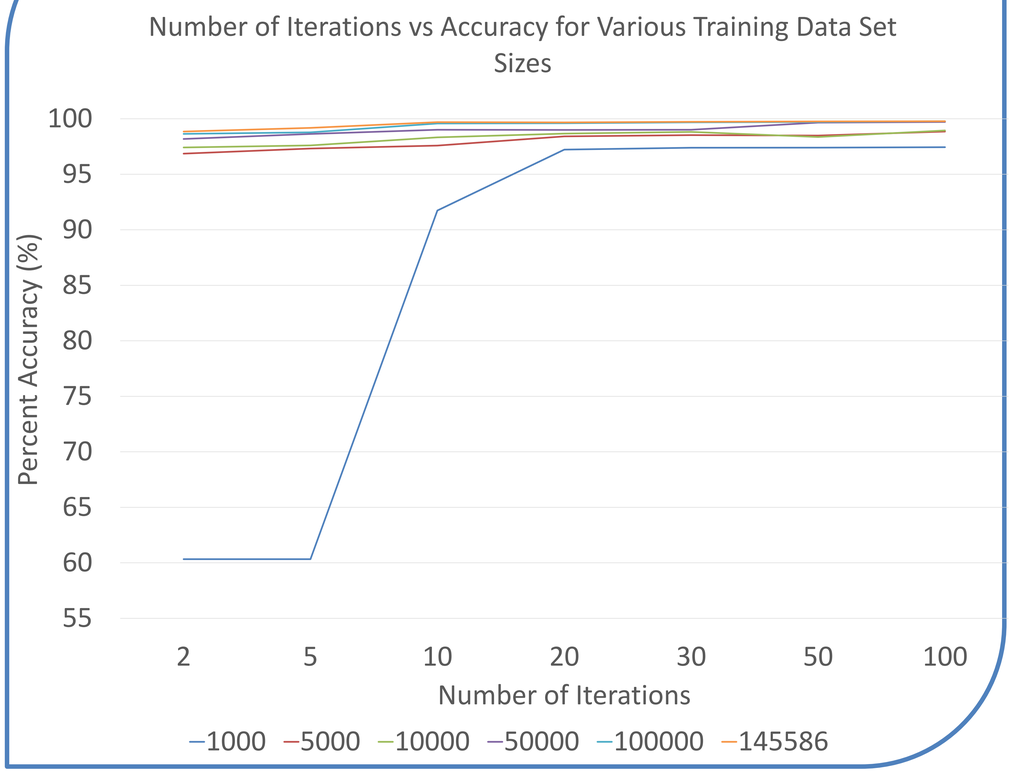
Error Minimization During Training



Multilayer Perceptron Layout



Results



Conclusion

- We were able to exceed 99% accuracy with 50000 training images and 10 training iterations
- There is little benefit to using more than 2/3 of the data for training in conjunction with 50 training iterations